most ready and certain methods by which these frauds may be detected. A treatise of this kind has been much wanted in this country, both by the druggist and manufacturer, for heretofore, nothing has been published, as far as we are aware, with the exception of a reprint, some years since, of a popular work by Accum, principally devoted to the subject of adulterations of alimentary substances. It is true, much valuable information is to be found in the standard chemical and pharmaceutical publications of the day, and scattered through the various scientific journals, but this cannot be generally available from the labour and expense attendant on the search for it through numerous volumes, many of which are rare, and difficult of access.

Dr. Beck appears to have carefully collected all that is important, and has presented the information thus obtained from the best authorities, in a clear yet succinct form, so as to enable any one conversant with the general principles of chemistry, to apply it with advantage. The generality of the processes he points out, for the detection of adulterations, are extremely simple, and may be successfully employed by the merest tyro; in some cases, the plans indicated are more complex, and will require a fuller knowledge of chemical actions, on the part of the operator, but these are not numerous, whilst the directions given are extremely clear and definite. As the work is intended for general and popular use, the modes of investigation advised by the author, are calculated rather to point out the nature of the adulterations, and the probable extent of them, than to ascertain with absolute precision the composition of the substance submitted to examination; a task only to be undertaken by the experienced chemist.

The author has added much to the value of his treatise, by giving, in an appendix, full descriptions of the various chemical operations noticed in the body of the work, as well as directions for the preparation of such chemical tests as may be needed, with tables showing the changes and operation of certain re-agents on the more important substances. The work is, altogether, well suited for the purposes for which it was designed, and cannot fail to be extremely useful to all classes of the community, and we trust will act as a check to the knavery and cupidity of the many sophisticators, unfortunately so numerous both here and elsewhere. The baneful practice of adulterating the most important articles employed in medicine and the arts, is far too general, and consequently the most skillfully directed efforts of the physician, the artist or the manufacturer, are constantly rendered nugatory or even injurious from the imperfection and worthlessness of substances they have employed, and which have been passed upon them as genuine and efficient. The only mode of preventing this is, by the diffusion of such a knowledge among the community, as will enable every one readily to detect and expose the fraud, and this can best be accomplished by an extensive circulation of works like the present.

In conclusion, we would, however, remark that Dr. Beck has by no means occupied the whole ground; many substances are omitted by him or merely noticed in a cursory manner, which are of much importance in the arts, and are constantly offered for sale in an adulterated condition. These additions we hope that he will soon be enabled to make in a second edition of his work. R. E. G.

ART. XVIII.—*Chemistry of the Four Seasons; Spring, Summer, Autumn and Winter. An Essay, principally concerning Natural Phenomena, admitting of interpretation by Chemical Science, and illustrating passages of Scripture.* By THOMAS GRIFFITHS, Professor of Chemistry in the Medical College of St. Bartholomew's Hospital; Author of "Recreations in Chemistry and Chemistry of the Four Elements." Philadelphia, Lea & Blanchard, 1846: pp. 451, 12mo.

THIS is an exceedingly pleasant and instructive work, and although intended rather for the general than the scientific student, may be perused by every one with advantage. The author is well known as an able chemist and lecturer, as well as by the production of a popular treatise on the "*Chemistry of the Four Elements*," to which the present may be considered as a sequel. The object of the writer is to explain, in a popular but at the same time clear and perspicuous manner, some of the principal phenomena of the four seasons, through the medium of chemistry, and to show that in tracing these operations of nature, "there is not so much required any strength of imagination, or exactness of method, or depth of contemplation, as a sincere hand and faithful eye to examine and to record the things themselves as they really appear." The author has not confined himself to a mere explanation of the most striking phenomena of the Four Seasons, but has introduced a variety of other interesting and useful information.

Throughout the work, the experimental illustrations are of the simplest character, and can be performed with apparatus always to be had at a trifling cost, whilst the directions for their performance are given so explicitly that the merest tyro in chemistry may attempt them with a certainty of success. Whenever it could be done, the subject has been treated practically, and the information brought to bear on the every-day concerns of life; as an instance of which may be adduced the remarks on warming apartments, and the numerous errors committed by architects and builders in the construction of fireplaces and furnaces, are clearly and judiciously pointed out. The remarks of the author on warming and ventilation are well deserving of attention, and if attended to, would prevent the many inconveniences and discomforts now complained of during the cold season.

We can most confidently recommend this little work, and feel convinced that no one can rise from a perusal of it, without having gained much useful information, and, to use the words of the author, "seeing that everything is beautiful in its season, that everything displays the power and goodness of God. So that man cannot say, this is worse than that, for in time they shall be approved."

R. E. G.

ART. XIX.—*A Practical Treatise on Ventilation.* By MORRILL WYMAN. Boston, 1846. 18mo. pp. 420.

THE importance of proper ventilation is every day pressing itself upon the more intelligent portions of communities, and the statistics of towns, hospitals, ships and prisons, all tend to corroborate the great truth of our author's motto, "Plures occidit aer quam gladius."

In the last number of this Journal,* we referred to certain branches of the subject, treated of by Mr. Farr, in his letter accompanying the "Fifth annual report of the Registrar General, of births, deaths, and marriages in England." Mr. Farr has described in strong terms—but no stronger than truth justified—the ill effects resulting from impurities of the air, such as halitus from the breath, and perspiration of animals, &c. The mortality of the crowded metropolitan hospitals from gangrene, erysipelas, &c., compared with that of the smaller country hospitals, affords a striking illustration of the absolute necessity of means of ventilation, essential to the preservation of life, to say nothing of the comfort of persons, collected together in circumscribed limits.

The author of the book before us has favoured the public with a highly valuable treatise, embodying those principles and modes of ventilation which have been most successfully applied in Europe as well as in America. He has, in the first place, described the laws and properties of gases generally; especially the law of their diffusion, so important in its influence upon ventilation.

Secondly, the chemical and physical properties of the atmosphere.

Thirdly, the processes by which atmospheric air may become vitiated; particularly the processes of respiration and combustion, and the nature of the gases produced by them.

Fourthly, the means by which impurities, whether chemical or mechanical, may be removed from atmospheric air.

Fifthly, the principles of the movements induced in air by heat, especially those occurring in apartments, and in chimneys.

Sixthly, the moving power best adapted to ventilation, and the quantity and qualities of the air which should be supplied.

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* See Am. Journ. of Med. Sciences, for October, 1846, pages 430, etc.